Appendiceal Abscess Revealed by Right Renal Colic and Hydronephrosis

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Reported is the case of a patient who had an appendiceal abscess revealed by right renal colic with fever and general fatigue. The abdominal computed tomography scan showed hydronephrosis and an appendiceal abscess surrounding and compressing the ureter. The appendix contained a stercolith and was perforated.
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Key words: Renal colic • Hydronephrosis • Appendicitis • Abscess

Acute appendicitis presenting with renal colic secondary to ureteral stenosis is a very rare event.[1] Our patient presented with an acute complicated appendicitis with stercolith and perforation causing appendiceal abscess and leading to right ureteral stenosis and hydronephrosis.

Case Presentation

A 60-year-old woman was admitted to the emergency room with a 7-day history of right renal colic and low abdominal pain. There were no urinary symptoms. Past medical history was unremarkable. On physical examination, her temperature was 39°C/102°F and the lower abdominal region was mildly tender upon palpation. White blood count was 17,000/mm^3, C-reactive protein levels were 120 mg/L, and blood creatinine levels were 8 mg/L. Ultrasound examination showed right renal hydronephrosis with a normal renal parenchyma. Abdominal computed tomography (CT) scan confirmed the right upper urinary tract dilatation and revealed a

nonenhancing hypodense mass extending from the appendix, which contained a stercolith, to the retroperitoneal region surrounding and compressing the right ureter (Figures 1, 2, and 3).

The patient was managed surgically and a medial laparotomy was undertaken. The exploration showed a perforated appendix containing a stercolith, with a periappendiceal abscess extending to the retroperitoneal region. Appendicectomy and abscess drainage were therefore performed. The postoperative course was uneventful and the patient was discharged 4 days later.

Figure 1. *Computed tomography scan showing right hydronephrosis.*

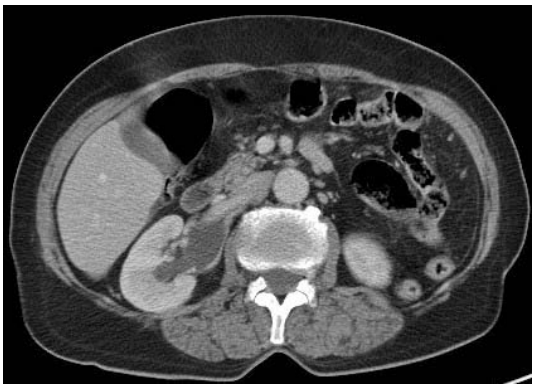


Figure 2. *Computed tomography scan showing a perforated appendix with stercolith and periappendiceal abscess.*

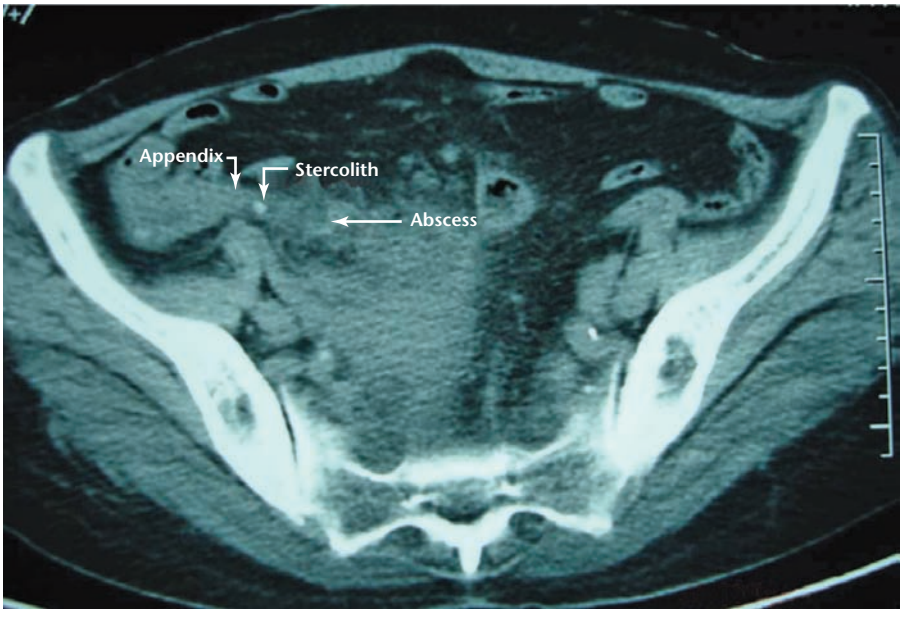
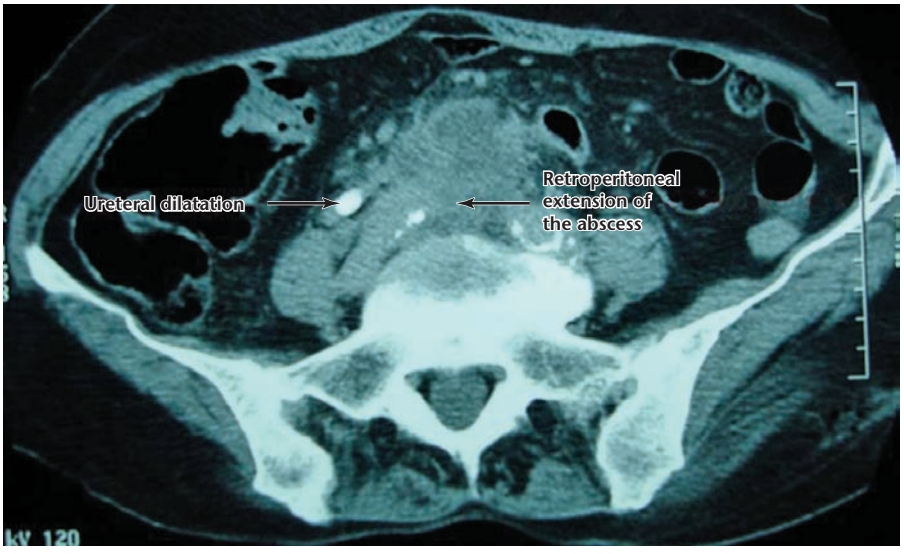


Figure 3. *Retroperitoneal involvement by the appendiceal abscess.*



Discussion

Ureteral obstruction is a well-known complication of appendicitis, but little has been published about this presentation.[1-3]

Ureteral compression can be unilateral and the right side is usually involved, as in our case, or is bilateral.[2,4] It is easy to understand the right ureter obstruction caused by the compression due to appendiceal abscess because of the anatomic proximity. However, the mechanism of bilateral compression is not clear and may be due to massive infiltration of the retroperitoneum by the extension of the abscess or by the inflammatory process. Moreover, appendiceal actinomycosis, usually associated with intense inflammatory reaction leading to dense fibrosis, may be an additional factor.[5]

The compression is usually reversible after appendectomy and abscess drainage. Differential diagnoses include idiopathic retroperitoneal fibrosis and malignancies either from digestive or genitourinary origin.

The ultrasound examination is the first imaging tool used to diagnose hydronephrosis, but it is not always efficient in detecting the underlying cause. A recent meta-analysis

showed that the advantages of ultrasound in the diagnosis of appendicitis were mainly found in young and male patients.[6] This could explain why, in our patient, the ultrasound could not evoke the diagnosis. CT scan is the most valuable tool to identify the cause of hydronephrosis and to diagnose appendicitis and its complications such as appendiceal abscess. In our case, the CT scan was able to evoke the diagnosis; thus, an exploratory laparotomy was indicated.

Conclusions

In a patient with hydronephrosis, fever, and low abdominal pain—mainly the right lower quadrant abdominal pain—CT scan is mandatory to rule out acute appendicitis or appendiceal abscess. ■

CT scan is the most valuable tool to identify the cause of hydronephrosis and to diagnose appendicitis and its complications such as appendiceal abscess.

References

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Main Points

- Ureteral obstruction is a well-known complication of appendicitis, but little has been published about this presentation.
- Ultrasound examination is the first imaging tool used to diagnose hydronephrosis, but it is not always efficient in detecting the underlying cause.
- In a patient with hydronephrosis, fever, and low abdominal pain—mainly the right lower quadrant abdominal pain—CT scan is mandatory to rule out acute appendicitis or appendiceal abscess.